

In the Claims:

Please amend claim 1 and add new claim 14 as follows:

1. (Currently Amended) A method of manufacturing double glazing having glass plates, a spacer disposed between peripheries of the glass plates, and an airtightly sealed air space surrounded by the spacer between the glass plates, the method using a spacer forming device including an applicator head for applying a spacer forming material, and spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head, wherein, at the tip end of the pump housing of the fixed displacement pump, a pipe is connected to the extruding means and at the rear part of the peripheral surface of the pump housing, a pipe is connected to the applicator head and further, an extrusion rod is provided in a pump chamber of the pump housing which is slidably inserted from the rear end side to the tip side of the pump housing, the method comprising the steps of:

feeding the spacer forming material to the pump chamber by the extrusion rod being moved backward by extrusion pressure of the spacer forming material extruded from the extruding means;

supplying the spacer forming material fed into the pump chamber to the applicator head by the extrusion rod being moved forward to cause the space forming

material to pass through between the inner peripheral surface of the pump housing and the outer peripheral surface of the piston rod;

applying the spacer forming material from the applicator head along the periphery of an upper surface of one of the glass plates thereon to form the spacer; and
attaching by press the other one of the glass plates to the spacer.

2. (Withdrawn) A method of manufacturing double glazing having glass plates, a spacer disposed between peripheries of the glass plates, an airtightly sealed air space surrounded by the spacer between the glass plates, and a sealing agent layer disposed outwardly of the spacer between the glass plates, the method using a spacer forming device including an applicator head for applying a spacer forming material, and spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head, the method comprising the steps of:

applying the spacer forming material from the applicator head along the periphery of an upper surface of one of the glass plates onto a part of the periphery spaced apart from an edge of the periphery by a predetermined length to form the spacer;

attaching by press the other one of the glass plates to the spacer; and

forming the sealing agent layer outwardly of the spacer between the glass plates.

3. (Withdrawn) A method of manufacturing double glazing having glass plates, a spacer disposed between peripheries of the glass plates, and an airtightly sealed air space surrounded by the spacer between the glass plates, the spacer having sealing agent layers on upper and lower surfaces thereof, the method using a spacer forming device including an applicator head for applying a spacer forming material and a sealing agent in a layered state, spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head, and sealing agent supply means having a fixed displacement pump for supplying the sealing agent to the applicator head, the method comprising the steps of:

applying the spacer forming material and the sealing agent in a layered state from the applicator head along the periphery of an upper surface of one of the glass plates thereon to form the spacer having the sealing agent layers on the upper and lower surfaces; and

attaching by press the other one of the glass plates to the spacer via the sealing agent layer on the upper surface of the spacer.

4. (Withdrawn) A method of manufacturing double glazing having glass plates, a spacer disposed between peripheries of the glass plates, primary sealing

agent layers disposed on upper and lower surfaces of the spacer, an airtightly sealed air space surrounded by the spacer between the glass plates, and a secondary sealing agent layer disposed outwardly of the spacer between the glass plates, the method using a spacer forming device including an applicator head for applying a spacer forming material and a primary sealing agent in a layered state, spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head, and primary sealing agent supply means having a fixed displacement pump for supplying the primary sealing agent to the applicator head, the method comprising the steps of:

applying the spacer forming material and the primary sealing agent in a layered state from the applicator head along the periphery of an upper surface of one of the glass plates onto a part of the periphery spaced apart from an edge of the periphery by a predetermined length to form the spacer having the primary sealing agent layers on the upper and lower surfaces;

attaching by press the other one of the glass plates to the spacer via the primary sealing agent layer on the upper surface of the spacer; and

forming the secondary sealing agent layer outwardly of the spacer between the glass plates.

5. (Original) A method of manufacturing double glazing according to any one of claims 1 to 4, wherein the spacer forming material is a thermoplastic material.

6. (Withdrawn) A spacer forming device for forming a spacer disposed between peripheries of glass plates of double glazing, comprising:

glass plate fixing means for fixing one of the glass plates;

an applicator head for applying a spacer forming material;

spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head; and

an articulated robot that moves the applicator head along the periphery of the one of the glass plates.

7. (Withdrawn) A spacer forming device for forming a spacer disposed between peripheries of glass plates of double glazing, the spacer having sealing agent layers on opposite surfaces thereof, comprising:

glass plate fixing means for fixing one of the glass plates;

an applicator head for applying a spacer forming material and a sealing agent in a layered state;

spacer forming material supply means having an extruding means that extrudes the spacer forming material while melting and mixing the material and a fixed displacement pump for supplying the spacer forming material extruded from the extruding means to the applicator head;

sealing agent supply means having a fixed displacement pump for supplying the sealing agent to the applicator head; and

an articulated robot that moves the applicator head along the periphery of the one of the glass plates.

8. (Withdrawn) A spacer forming device according to claim 6 or 7, wherein the applicator head has a discharge port for discharging the spacer forming material and a gate that can open and close the discharge port.

9. (Withdrawn) A spacer forming device according to claim 6 or 7, wherein the applicator head has a vertically extending discharge port for discharging the spacer forming material and a discharge path that communicates with the discharge port, flow rate regulating means for regulating a flow rate of the spacer forming material discharged being provided in the discharge path near the discharge port.

10. (Withdrawn) A spacer forming device according to claim 9, wherein the flow rate regulating means includes a flow rate regulating plate having a vertically

extending opening, and a cross-sectional area of the opening is set smaller in an upper side than in a lower side thereof.

11. (Withdrawn) A spacer forming device according to claim 10, wherein the cross-sectional area of the opening is gradually smaller toward the upper side.

12. (Withdrawn) A spacer forming device according to claim 9, wherein the applicator head has a gate that can open and close the discharge port.

13. (Withdrawn) A spacer forming device according to claim 6 or 7, wherein the spacer forming material is a thermoplastic material.

14. (New) A method of manufacturing double glazing according to claim 1, wherein a plurality of fixed displacement pumps are connected in parallel to the extruding means, and while the spacer forming material is supplied to the applicator head by one of the fixed displacement pumps, the spacer forming material is charged to an other fixed displacement pump.